Post-print (final draft post-refereeing)
Publishers version: http://www.tandfonline.com/doi/full/10.1080/09638288.2017.1306586

Supporting successful inclusive practices for learners with disabilities in high schools: a multi-site, mixed method collective case study

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Keywords: inclusion; young people; teaching; models.

Implications for Rehabilitation

- Inclusion is influenced by the physical environment, attitudes, expectations and opportunities, in addition to a learner's skills and abilities.
- Schools should focus on the environment and teachers' practices, rather than on what an individual learner can or cannot do.
- The practices discussed in this study reflect those that a range of educators and related services personnel agree are realistic, appropriate and effective.
- Change may be led by the school management team, however, there are many ways in which all staff can contribute; indeed, approaches will not work effectively unless they are understood and implemented by everyone.

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Abstract

Purpose: The increase in the number of individuals with disabilities in general education has led to an increased interest in how to best provide support. Despite an emphasis on inclusion and participation in policy, defining and describing the support provided for these learners is still an important task.

Method: This multi-site, mixed method collective case study reports on 125 education and other staff from 7 schools who took part in interviews and focus groups to reflect on a range of topics related to older learners with disabilities in high schools. We focussed on what the participants did, what they considered to be successful and what their "best" practices were.

Results: Descriptions of practices were rich, nuanced and complex. The analysis identified over 200 "strategies" which were synthesised into two meta-themes and eight sub-themes. We discuss the results in the context of an ecological perspective, and the importance of focussing on the full range of influences and outcomes for young people in designing supports.

Conclusions: We have drawn on evidence from this study as a basis for professional development activities, and identified that focussing on the environment and the role of practitioners has a potential to improve the inclusion outcomes for older learners with disabilities.

Keywords: inclusion; young people; teaching; models.

Introduction

The international context for education for children with disabilities and other additional needs is grounded in the UN Convention on the Rights of the Child [1] and the Salamanca Statement. [2] The trend internationally is towards "inclusive" education, [3,4] and practices to accommodate disabled children and others with "special educational needs" or "additional support needs." This is an important issue internationally; services for children with special educational needs are notoriously variable, reflecting distinctive identification processes, and locally defined practices and systems. [5] In Scotland, an overarching category termed "additional support needs" is used to record children who require extra support. This was introduced alongside the presumption of general education for most children with disabilities and other needs, although specialist provision is available for a minority. [6] This focus on inclusion has led to significant numbers of learners with disabilities in general education classrooms in Scotland. [6] Scotland is not unique in this respect, and analogous trends are apparent across Europe and the United States. [5]

Evidence shows positive outcomes for inclusion in general education, including better grades, improved opportunities for social engagement and enhanced development of life skills. [7-14] Benefits for typically developing children in inclusive settings are also identified. [15-17] A rights-based argument that inclusion in general education is an entitlement for all learners is a strong consideration. [18] Definitions of inclusive practice are broader than placement however, reflecting issues of acceptance, participation, equality, and social relationships. [19-22] This understanding of inclusion focusses not only on increasing the participation of learners with disabilities, but also on the changes required by schools to staff behaviours, environments, routines and structures. [21] A key issue is that both a child and the environment are important. Ecological perspectives, [23] dynamic systems theories, [24] and contemporary conceptualisation of disability, particularly the WHO International

Classification of Functioning, Disability and Health Children and Youth Version (ICF-CY) [25] highlight the relationships between young people, environmental components, activity and participation, leading to the idea that practices require an understanding of this multidimensional set of interactions. These ideas tie in with concepts from disability theory, in particular, the social model of disability which rejects the emphasis of individual impairment in favour of focusing on the disabling aspects of culture, attitudes and institutions. [26]

Considering the international trend towards more inclusive education, [3-5] recent reports suggest that teachers across all age ranges may face difficulties with operationalising inclusion into practice. [20, 27-31] Concerns are understandable particularly when schools and teachers (particularly for older learners) tend to be rated on academic achievement, rather than on how inclusive they are. [32] The research evidence about the positive effects of inclusion may not be reaching teachers in practice. [27,28,33] A study by Hodkinson [34] examining Newly Qualified Teachers' attitudes after one year of teaching practice found that although they could define inclusion as a multi-faceted concept, they had limited understanding of how to operationalise it.

A further issue is that in comparison to early years provision, less research exists to guide practices for older learners. [35] Many practices are developed for younger children and applied in the older context without accommodating for specifics of this age group. [36] However, there is evidence that inclusive practices do work and can be successful in high schools. A recent study from one local authority in Scotland revealed that high school teachers are supportive of inclusion. [37] Head Teachers (School Principals) were the most inclusive group, followed by Deputy Head Teachers (Vice-Principals) and Special Needs/Support for Learning Teachers. Studying for a module in "special education" also had a positive impact on attitudes. A further study by Boyle and colleagues [38] identified the

importance of staff interactions in developing practices in high schools, citing peer support as a key factor. Additionally, it was highlighted that inclusive education policies have to be more in tune with the views of practicing teachers in order to work effectively. [38]

The existing literature is replete with studies addressing barriers and facilitators to effective inclusive practices, especially in the US, Canada and Australia. [39-41] Core principles that should underpin comprehensive school reforms to facilitate inclusion are also widely accessible. [42,43] However, there is sparse research literature focussing on effective practices, particularly literature focussing on what it is that teachers actually do. [44,45] It is proposed that for professionals to feel prepared and confident in their abilities to support children with disabilities there is firstly a need to explore their practice so that it can be articulated, understood and further improved upon. Thus, our interest was how teachers met the challenges presented by diverse learners in classrooms, specifically, older learners with disabilities. Embedded in our approach was the assumption that inclusion practices were not unusual or specialist, but were core activities that all professionals had a responsibility for. Our goal was to illuminate and describe the thoughts of the participants, their knowledge and opinions. We also wanted to develop knowledge to share with the local education community.

Methods

Our research questions for this study were: (1) What experience and perceptions do staff have of supporting pupils with additional needs in secondary/high schools? (2) What actions, practices or strategies do staff find helpful when working with pupils who have additional needs? (3) How is the support for pupils with additional needs coordinated within secondary/high schools?

A case study approach was used to describe in detail practices and experiences of individuals

working with learners with additional support needs and disabilities. According to Yin [46], case studies are used to 'investigate contemporary phenomena within its real-life context'. [46]. Our multi-site case study included the everyday contexts of seven schools and explored different practice environments, models of teaching and learning in these schools. Although our study was collective in design (aggregating results across participants and schools), it was also instrumental in that this sample was studied as an exemplar of the more general phenomenon of support for special educational needs for older learners. The study was part of a wider partnership entitled CIRCLE (Child Inclusion: Research into Curriculum, Learning and Education) designed to identify and disseminate inclusive practices. The focus for CIRCLE was teachers and related services personnel, aiming to make recommendations for meaningful change in their practices based on research findings.

Location and participants

The study was based in Edinburgh which has a population of approximately 440,000. Schools were selected from the available provision educating approximately 18,000 learners aged 12-18 years. [49] The selection of the schools followed purposive sampling technique. With support from the Local Education Authority (LEA), a sample of 7 secondary schools (5 general and 2 special schools) was selected to be representative of those within the area in terms of size, social deprivation status[1] and staff experience.

Participants were Subject Teachers, Support for Pupils (special education) Teachers, senior management (Head Teacher), Special School Teachers, Learning Assistants, School Librarians and a range of other professionals, including non-school staff (Visiting Teachers, non-school based Health Staff, and Specialist Services Staff).

As noted, in Scotland, the provision for learners is organised around the broad

[1]Scottish Index of Multiple Deprivation is measured through identification of small area concentrations of multiple deprivation and specific issues and challenges these areas face [50].

concept of "additional support needs." However, we were primarily interested in learners whose needs were related to disabilities (learning, sensory, physical, language, developmental and emotional disabilities), rather than learners experiencing social or other forms of disadvantage. We selected children with disabilities because physical, behavioural, developmental and learning disorders account for a significant proportion of learners with additional needs in Scotland [6] and internationally. [5].

Ethical issues

The authors followed the British Education Research Association guidelines. [51] Ethical and access approvals to complete the study was obtained from the LEA. Approvals were also sought from the management of each individual school. We were mindful of coercion, as the local authority had instigated the study and senior professionals were study collaborators. To account for this, the study participants were provided with information via emails and print leaflets, and volunteers were requested. Some personnel were also approached by the research team directly. No-one was recruited to the study by a manager or other individual from their workplace. All participants provided written informed consent. Each participant was assured that they could withdraw from the study at any time, and that their participation and views would remain confidential.

Data collection

Data were gathered via interviews and focus groups by a team of three researchers with expertise in paediatric disability and rehabilitation. Focus groups were completed in each school with that school's staff. For the groups, each researcher was accompanied by one assistant. The duties of the researcher included introducing the topic, leading the focus group discussion, keeping participants on topic and prompting follow-up questions. The assistant's

responsibilities were greeting participants, operating equipment, taking notes and writing key points on a flip chart. Each focus group lasted between 60-90 minutes and comprised of 4-10 participants. Post-group, on the same day, the moderator and assistant reviewed the integrity of the group to the question schedule, and made initial notes about emerging themes. Provisional themes, issues and concerns were extracted and discussed by the research team prior to the next group meeting. Emerging main themes were further discussed with each focus group at the subsequent meeting; thus, this on-going feedback validated the emerging themes.

Interviews were completed with individuals whose participation in a one-to-one format would be more appropriate (for example, Head Teachers). Interviews lasted between 40-70 minutes and were completed by a researcher. Where possible, interviews were observed by another researcher in order to ensure integrity to the question schedule across the project. Both the interview and focus groups schedule followed these broad topics, with further prompts as required: (1) What types of pupils with additional needs are you commonly asked to see in secondary school, and how does their additional needs affect them? (2) What supports and strategies might you suggest to support these pupils – thinking about whole school or whole class strategies, or individual supports and strategies that you might implement yourself or ask somebody else to do? (3) How do you ensure that the support for these pupils is coordinated within the school?

Analysis

Interviews and focus groups were recorded and transcribed verbatim. The data analysis process involved a thematic content analysis using a coding method. [53] Transcripts were firstly read in detail, word by word, to derive initial coding [54]. This involved close reading of scripts. [54] An open coding procedure was used to identify words/passages that

captured concepts, practices, strategies, thoughts and actions of the participants. [54] We identified several hundred codes (relating to practices and strategies used by the participants) at this stage. Codes with similar information were then merged, and pruning of irrelevant or duplicative codes completed and an initial identification of themes was conducted. Subsequently, themes were themselves developed and interrogated, and a final level of abstraction was reached in the form of two meta-themes and sub-themes. At each step, it was ensured that saturation of themes had been reached. Data were analysed across the whole sample (rather than by individual school, or by specific respondent group). A diagram was developed representing how the themes and sub-themes can be viewed ecologically.

Dependability and credibility

All coding and analysis was carried out by three researchers under the guidance of an experienced qualitative researcher. We used methodological triangulation (interviews as well as focus groups) for data collection in order to increase the credibility of the study. Data were analysed concurrently to data collection [47] and were managed with NVIVOv8. [52] Analyst triangulation and team coding allowed for inter-observer reliability checks of the coding and improved trustworthiness of the analysis. Our overall approach was to devise a scheme of participants' accounts of what they believed and verified to be useful practices. As such, we have not attempted to evaluate the effectiveness of the practices discussed in the accounts. To enhance credibility through member checking, themes and interpretations were discussed and debated with participants throughout the analysis. Member checking was also completed by an expert panel from the LEA. This expert panel reviewed and appraised partially analysed data and the final results over a series of meetings, including a final set of meetings to confirm the study interpretations.

Results

Participant Characteristics

Seven schools were included (see table 1). Eighty participants were interviewed, whilst 45 took part in focus groups (see table 2).

Table 1. Included schools details[+]

	School roll	No of staff (WTE)
Kenstrath	1300	90
Aberiver	1000	80
Braewater	500	60
Bankslane	400	45
Abbyleaf	250	35
Stramond SS	100	20
Fairgate SS	90	15

[+] *names have been altered*
WTE = whole time equivalent
SS = special schools

Table 2. Participants and data collection methods by schools

Schools	**Abbyleaf**	**Bankslane**	**Stramond**	**Aberiver**	**Kenstrath**	**Braewater**	**Fairgate**	**Non-school***	**Totals**
Focus Group participants	6	8	4	0	10	10	7	0	45
Interviewees	10	10	0	10	16	7	0	27	80
Role									
Subject Teacher	4	5	0	4	10	5	0	0	28
Support for Pupils Teacher	3	5	0	3	6	5	0	7	29
Senior management	2	1	0	1	2	1	0	0	7
Special School Teacher	0	0	4	0	0	0	7	0	11
Learning Assistant	6	7	0	2	8	5	0	0	28
Librarian	1	0	0	0	0	1	0	0	2
Other role	0	0	0	0	0	0	0	20	20
Total	**16**	**18**	**4**	**10**	**26**	**17**	**7**	**27**	**125**

** Non-school covers other roles (e.g. visiting teachers) as well as other staff who were not based in schools (e.g. health staff, specialist services)*
Other roles = Dyslexia Officer = 1, E-Team = 2, English as an Additional Language Team = 2, Hospital Outreach Teaching Team = 3, Augmentative Communication Team = 1, Quality Improvement Officer = 1, Specialist Physical Education /Active Schools Co-ordinator = 1, Support Co-ordinator = 1, Therapy Services = 5, Autism Spectrum Disorder Team = 2, Visiting Teaching Support Service = 1.

Demographic characteristics of study participants are provided in table 3. The majority of participants were experienced: 30 participants (24%) had a length of service in the area of their subject between 5-10 years, while 80 (64%) had more than 10 years (see table 3).

Table 3. Sample demographics

Role	Number & (%)	Full time v. Part time (%)	Length of Service in Years (%)	Level of Education (%)
Subject Teachers†	28 (22)	FT = 26 (92.3) PT = 2 (7.1)	<1 = 0 (0) 1-4 = 4 (14.2) 5-10 = 12 (42.9) >10 = 12 (42.9)	Diploma = 2 (7.1) BSc/Bed/BA = 8 (28.6) PGDE = 14 (50) MSc/MPhil = 3 (10.7) PhD = 1 (3.6)
Support for Pupils Teachers	29 (22.8)	FT = 24 (82.7) PT = 2 (6.8) Supply = 1 (3.4) No Answer =1(3.4)	<1 = 1 (3.4) 1-4 = 6 (20.6) 5-10 = 6 (20.6) >10 = 14 (48.2) No Answer = 2 (6.8)	Diploma = 2 (6.8) BSc/Bed/BA = 12 (41.3) PGDE = 13 (44.8) MSc/MPhil = 2 (6.8) PhD = 0 (0)
Senior Management††	7 (5.5)	FT = 7 (100) PT = 0 (0)	<1 = 2 (28.6) 1-4 = 2 (28.6) 5-10 = 2 (28.6) >10 = 1 (13.3)	Diploma = 0 (0) BSc/Bed/BA = 3 (42.9) PGDE = 3 (42.9) MSc/MPhil = 1 (13.3) PhD = 0 (0)
Special Schools Teachers	11 (8.7)	FT = 10 (90.9) PT = 1 (9.1)	<1 = 0 (0)-4 = 3 (27.2) 5-10 = 3 (27.2) >10 = 4 (36.4) No Answer = 1 (9.1)	Diploma = 1 (9.1) BSc/Bed/BA = 6 (54.5) PGDE = 2 (18.2) MSc/MPhil = 2 (18.2) PhD = 0 (0)
Learning Assistants	28 (22)	FT = 7 (25) PT = 21 (75)	<1 = 5 (17.9) 1-4 = 11 (39.3) 5-10 = 4 (14.3) >10 = 8 (28.6)	Diploma = 5 (17.9) BSc/Bed/BA = 5 (17.9) PGDE = 2 (7.1) MSc/MPhil = 5 (17.9) PhD = 0 (0) Other = 4 (14.3) No Answer = 7 (25)
Librarian	2 (3.2)	FT = 2 (100) PT = 0 (0)	<1 = 0 (0) 1-4 = 0 (0) 5-10 = 0 (0) >10 = 2 (100)	Diploma = 0 (0) BSc/Bed/BA = 2 (100) PGDE = 0 (0) MSc/MPhil = 0 (0) PhD = 0 (0)
Other roles†††	20 (15.8)	FT = 19 (95) PT = 1 (5)	<1 = 2 (10) 1-4 = 3 (15) 5-10 = 3 (15) >10 = 12 (60)	Diploma = 1 (5) BSc/Bed/BA = 6 (30) PGDE = 4 (20) MSc/MPhil = 9 (45) PhD = 0 (0)

† Subject Speciality: Physical Education = 2, Biology/Chemistry/Physics/Science = 4, Craft, Design & Technology = 2, Drama = 1, English = 7, Maths = 5, French/German/Modern Languages = 2, Modern Studies = 1, Geography = 2, Religious and Moral Education = 2.
†† Job Title: Acting Deputy Head = 2, Deputy Head = 2, Deputy Head/Student Support = 1, Deputy Head/Qualifications Co-ordinator = 1, Deputy Head/ Team Leader = 1
†††Other roles = Dyslexia Officer = 1, E-Team = 2, English as an Additional Language Team = 2, Hospital Outreach Teaching Team = 3, Augmentative Communication Team = 1, Quality Improvement Officer = 1, Specialist Physical Education /Active Schools Co-ordinator = 1, Support Co-ordinator = 1, Therapy Services = 5, Autism Spectrum Disorder Team = 2, Visiting Teaching Support Service = 1.

Themes

Themes are presented across the sample (rather than by individual school or specific respondent group). Common areas of need, two meta-themes and eight sub-themes related to practices in school were identified. Our focus was learning, sensory, physical, language, developmental and emotional disabilities. Participants were able to reflect and talk about these groups of learners. Participants sometimes referred to medical/diagnostic classifications (Attention Deficit Hyperactivity Disorder), or other classifications which may have been used by the education authority (Learning Difficulty). Often however, the participants did not describe the needs using medical labels but the difficulties they observed. Most often discussed by the participants in relation to these groups of learners were broader areas of needs. The most commonly discussed areas were literacy and numeracy; behaviour, social and emotional issues; communication and speech issues; organisation/planning; physical/motor difficulties; problems with attention and concentration, and mental health concerns. Most participants also described learners' needs using the escalating system applied in the LEA as follows: "Pathway 1" in which needs are met by a teacher in the classroom; "Pathway 2" when involvement of an external person (Specialist Teacher) is required; "Pathway 3" which includes involvement of agencies external to the school (Therapists or Psychologists); and finally, "Pathway 4" which is highly specialist support usually provided in a segregated school or split placement between general and special school. Most of the data focussed on "Pathways 1-3". "Pathway 4" (highly specialist/segregated education) was discussed, but we do not include that information as our focus was on learners with additional needs in general education classrooms.

There was considerable variability between the participants in terms of how they described their practices. We identified several hundred individual "strategies." The complexity of deciding which strategies to use for a particular child in a particular situation

was based on reasoning and experience. There was also variability between the schools. However, it was not the aim of this study to contrast or compare the differences between schools, rather to highlight common dimensions. We present two meta-themes identified: the "Inclusive School", and the "Inclusive Classroom" along with their sub-themes. The diagrammatic model provided illustrates how themes can be viewed ecologically (see figure 1).

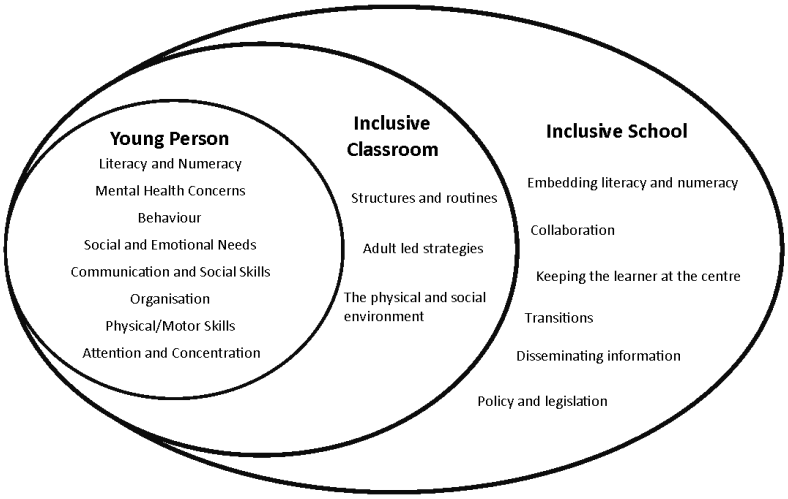

Figure 1. Ecological model of findings (themes and sub-themes)

Theme 1: An inclusive school

Sub-Theme 1: Keeping the learner at the centre. The first component of an "Inclusive School" was "keeping the learners at the centre" which focused on providing opportunities for learners to express their views about their school experiences, including their performance within subjects. Participants also discussed "keeping the learners at the centre" by understanding learners and showing them respect as individuals whilst considering their individual views, feelings, challenges, wishes, needs and interests:

"I think you have to be really careful and really listen to them, that you take a personal interest in them. When they come to you with a little story about what we've been doing and so on, they want you to devote that minute or two to them" (Teacher).

Participants located learner-centred practice as a key element of an inclusive school. This focus was often articulated with reference to national policy/legislation:

"It's about teachers understanding their pupils and understanding their responsibilities in the legislation…I think that's key" (Deputy Head Teacher).

Sub – Theme 2: Embedding literacy and numeracy. Participants highlighted the importance of literacy and numeracy in supporting learners with disabilities. Several participants noted the higher demands placed on secondary education, which combined with the fundamental nature of literacy/numeracy could lead to pervasive impacts:

"…the literacy demands and expectations are far bigger in secondary, and teachers need to be aware of that and aware of how demanding their subjects are" (Speech and

Language Pathologist).

Participants discussed monitoring and evaluating progress in relation to literacy and numeracy. Whole school policies around the provision of adjustments for learners with needs in these areas, such as distribution of printed notes, extra time, or use of scribes were identified in all the schools. Many participants also talked about developments in their own knowledge and skills, particularly around being mindful of the literacy and numeracy demands of their subject areas, even if specific literacy or numeracy demands were not immediately apparent:

"I looked at things like vocabulary projects. Obviously I'm… I've got a maths background but I find it fascinating, because obviously I'm at ease with the teaching numeracy, but having looked at the whole of literacy now and projects we're doing on maths vocabulary…" (Teacher).

Sub-Theme 3: Transitions. Transitions (from year to year or into and out of school) were identified as particularly problematic; hence, a response was required at a school level. Working collaboratively during transitions, sharing information with all of those involved with individual learners during the transition process (the school, the learner, the parent/carers, practitioners from the previous/future establishments, partner services and agencies), was identified as important. Reflection, particularly by collaborating individuals and teams on how well the transition process was working, as well as active monitoring of learners was seen as a key method for supporting learners. One of the teachers highlighted:

"It depends very much on the individual. Some students cope with this kind of transition really well because they already have a lot of life experience that they can bring to a transition. But for other students it's very, very hard".

Sub-Theme 4: Disseminating information. Having procedures in place for all practitioners to share and receive information about learners and their needs were emphasised, especially sharing updates on learning, behaviour and attendance:

"I have to say in the last few years in our own school, a big part of what we had developed is information sharing across the school in terms of support for learning – that support for learning isn't an adjunct…that support for learning is throughout the school and involves all members of staff" (Head Teacher).

Vigilance was required within these systems to work within parameters that ensured confidentiality and data protection. Good documentation (for example, use of standard assessments) was indicated as helpful in providing evidence for practitioners involved in the management of learners. Attending continuing professional development opportunities and sharing newly obtained knowledge with colleagues were also identified as important, particularly for class teachers:

"The SFL staff and behavioural staff are very well trained and there are a lot of courses on offer, but often staff look at the CPD directory and see that it says ASN [additional support needs] and think that it is purely for those members of staff – although there are some staff do go. But it would be better if more class teachers attended those courses" (Head Teacher).

Sub-Theme 5: Leadership and Collaboration. The development of an inclusive school was seen as the responsibility of school leadership/management, who were required to show adherence to principles of inclusion *"from the top"*:

"Ethos is instrumental – we all know of schools who show excellence in different areas, but it's developing that ethos. It needs to come from the top – if key people are on board. It only works if teachers see the strategies working and then tell other teachers to take it on board" (Head Teacher).

Leadership encouraged all staff to contribute; indeed, the principles for an inclusive school could not work unless they are understood and implemented by all with good leadership:

> *"...the different departments are led by good leaders who are very approachable…very professional and I am confident that they will be able to support me. And if they can support me then I can support pupils and families…" (Teacher).*

Achieving inclusion required collaboration. Collaboration was seen as a core requirement for good practice and mentioned particularly frequently in relation to development and maintenance of school-wide initiatives (for example, peer mentoring or literacy working groups). Many participants identified the importance of observing others' practice to develop an understanding of their roles and responsibilities. Collaboration was also required in school: within departments, between departments, with Learning Assistants and with learners themselves. In order to support this collaborative process, defined lines of communication to share information, and roles and responsibilities had been developed by all the schools. For

learners with the most complex needs, detailed assessment and provision was required, typically involving collaboration with other practitioners within the school, such as Specialist Teachers or the school management team.

Theme 2: An inclusive classroom

We have titled this theme as the "Inclusive Classroom" as it covers the activities and strategies engaged to improve the participation and achievement of learners in the classroom. There were numerous references to activity to achieve optimal conditions for all learners:

"It's mainly about getting it right for the child…the ethos, the relationships and the learning environment and therefore whether I'm a teacher of maths or English my basic principles don't change. If I care about children and I've got a positive relationship with them and I've organised my room properly and I know the children who are coming in, and I've got a positive curriculum and I teach it in a positive way" (Support for Learning Teacher).

The complexities of synthesising information across multiple subject areas and professional groups were apparent in drawing together themes for this section (we identified over 200 individual strategies). An iterative process of analysis identified three core themes into which the strategies were grouped: adult-led strategies, structures and routines and the physical/social environment.

Sub-Theme 6: Adult- led strategies. Strategies in this theme focussed on adults' behaviours. Strategies were focussed on participants altering their own behaviour, or their own attitudes, supporting learner motivation and strategies to support task completion. Strategies focussing on motivation were commonplace and viewed as instrumental. Focussing on motivation was

described as a powerful way of engaging interest in activities and influencing positive behaviour. Participants also identified the importance of ensuring all learners felt valued, and had their individual strengths recognised – this was viewed as a key motivating element. Building positive relationships and taking an interest in learners, as well as having clear and consistent behavioural boundaries were also discussed. Other strategies focussed on ensuring work were differentiated to build confidence, using learners' own interests, and providing opportunities to experience achievement:

"they [the learners] believe that they are learning, that they are improving…that they actually are achieving. …it's really important that they see themselves that they are improving and getting better" (Teaching Support Assistant).

Other strategies included tailoring support to the learner to improve motivation – for example, asking individual learners about help that they have found useful in the past or encouraging the learner to select their preferred supports. Applying sanctions consistently was seen as good practice; many staff talked about learners having to understand the consequences of their actions and being accountable as members of the school community. Delegating tasks to learners to promote responsibility and encourage feelings of self-efficacy was seen as useful. Also discussed were behaviour triggers; these were described as being aware of situations before they escalated. In particular, "out of control" situations were seen as detrimental to motivation.

Participants discussed modifying their own behaviours for the benefits of the learner, particularly in relation to communication. This included being aware of the complexities of language, breaking complex instructions into clear steps, slowing down rate of speech, repeating key information, identifying challenging or important vocabulary, and taking time

to clarify meanings. Participants' own thinking was seen as a central element, in particular by more experienced practitioners, reflected in this quote from a Head (Principal) Teacher:

"I think it's quite a difficult one for teachers because I think a lot of people…the teacher's self-esteem depend on being able to control the class and again….everybody should be open to learning new strategies".

Participants discussed the importance of reflecting on underlying causes of behaviours, and developing an understanding of how barriers to learning might influence behaviour. This was identified as an enlightening perspective to take, in lieu of only seeing a "disruptive" learner. Participants emphasized the importance of understanding the impact that challenges may have on individual learners – for example, that a communication difficulty may lead to challenging behaviour, meaning that practitioners should be reflective about learners "acting out." Attempting to see alternative explanations for learners' actions, and being willing to adopt a non-judgemental attitude were important aspects of this set of attitudes.

Sub-Theme 7: Structures and routines. Participants discussed structures and routines in terms of how the day/week was structured and how lessons were delivered. Having a consistent format for the start, middle and end of lessons and days, and using consistent seating plans to support learners were viewed as fundamental. Routines for lesson delivery, viewed as beneficial, included a consistent format to the lesson delivery:

"it's worthwhile taking the time…where things are, where they sit, how they come in, and if that takes six weeks, but it means that after that you have their attention and they can focus…you can then teach effectively" (Teacher).

Understanding a specific learner's needs within the class required reflection on knowledge and experience, discussion with colleagues and consideration of training requirements. Routines, including classroom set up/layout, lessons, activities and resources could then be planned to account for and address needs:

"I think that for every class you have, you have to have a flexible approach. I think structure works for a lot of these difficult things, just having a structure, a routine, varying what you're doing" (Teacher).

Some learners were noted to benefit from additional visual supports (e.g. visual timetables) to help them recognise predictable routines ,and additional visual supports to help them understand changes to these routines. These included promotion of the use of lesson and homework planners, frameworks for completing specific pieces of work (such as essay writing templates) and hand-outs with information pre-printed on them. Checklists were also used to help to understand the tasks. Breaking down information and tasks into manageable sections or steps was used to support learners, as was as the allocation of extra time to support self-organisation and management of belongings.

Sub-Theme 8: The physical and social environment. Numerous suggestions were given for modifications which could be made to the physical learning environment:

"I try to make it [the learning environment] suit the learner– areas with different chairs, or beanbags, which we use mainly for reading …to be honest…if a kid wanted to lie on the floor and write that would be ok" (Support for Learning Teacher).

Making changes to suit physical and sensory needs (e.g. lighting, noise levels, availability of sensory fidgets), seating plans, labelling and positioning of resources, and utilising visual cues and symbols were all identified. Supplementing verbal instructions with visual cues and demonstration, as well as using peers to support this were suggested. Visual prompts within activities, such as task lists and pictorial representations of ideas, and visual timetables to help maintain attention and concentration were very common practices. Environmental modifications that physically promote organisation were also commonplace, for example, use of drawers/boxes for resources, careful placement of resources, clear and simple labelling, and posters. Modification and consideration of the social environment was referenced:

"If they're not socially interacting with their peers, everything sort of goes. If they are dreading going into the class or whatever" (Teacher).

Participants talked about the relationships between learners. For example, different working relationships between learners, using small group activities, using buddy systems and developing facilitated playground, break time or after school activities. Developing the right social "climate" was also discussed:

"I think it is really important that, with any class, well particularly like that is that you build the right emotional climate so that everybody does trust one another and can feel that they can contribute and that everything is valued. Because if you don't have that within a class like that then it can be ….very difficult" (Teacher).

Cooperative and collaborative learning strategies were also identified, involving learners modelling appropriate behaviour or giving support to other learners or groups of learners, including peer marking/peer assessment. Managing the interactions of children who might be at risk of bullying and/or social exclusion (e.g. children with learning difficulties or mental health problems) was noted. Support for highly vulnerable learners included providing supported study or homework clubs, paired reading groups, a safe, stable and secure environment, supportive peers and/or friends during group work, supervised activities, building on existing social groups and providing a "safe" place where learners could go if distressed. Overall, the social environment was seen as creating supportive conditions for pupils' personal growth, both individual growth and the growth of fellow-learners:

"One thing we tried in [school] was with vulnerable learners coming out was an older pupil as a buddy who would be there as well so the buddy would be there making sure they were getting to class OK, trying to get them to interact with all the resources that the practitioners had to put in place" (Head Teacher).

Discussion

Many children with disabilities will be educated in a general education classroom. This means that educators have a responsibility to work with learners with very diverse support needs. Our concern was to explore this provision in practical terms, what practitioners do and what they consider to be successful and effective practices. All educational systems have a range of issues related to provision for children with special needs, and the cultural similarities of Scotland's education system to others around the world, [5] as well as its unique aspects, make our research

a useful addition to the debate. This study provides an insight into the supports, strategies and approaches used regularly by teachers and other education staff to support learners. The problem of clearly identifying and discussing teaching practice used to support children with disabilities, using consistent language and structures, is a common theme in the literature. [55]

Our results reinforce the importance of leadership and collaboration in ensuring inclusive education. Indeed, the role of leadership in establishing a cohesive school vision of inclusive education and fostering inclusive practices is recognised internationally. [56] Developing staff by providing continuing professional development and encouraging collaborative organisational cultures are core practices of effective school management [55,57] and the Head Teachers interviewed embraced this approach.

Our results indicated that activities to support learners were not something out of the ordinary, new or different. These were processes that professionals were engaged in and were very willing to discuss and debate. Participants did find it challenging to clearly and concisely articulate what they did, often not recognising the nuanced, complex and subtle changes they were making as anything other than "normal" practice. This is in keeping with findings of both Schon [58] and Eraunt [59] who found that a large part of professional knowledge is implicit and therefore difficult to describe. As stated, although initially challenging, when encouraged to think of a specific learner and then to describe everything that was done to support them, participants were effusive. This suggests that teachers and related services personnel have tacit knowledge; they are experts in 'doing' but less confident in their ability to articulate choices and messages on reasons for doing that. It also suggests that approaching inclusion as "normal" practice is a useful strategy for encouraging reflection on the topic.

In our study most participants were enthusiastic, and were aware of the need to

continually adapt themselves and their practice. Analysis of apprehensions about inclusive education from the wider literature indicates that many individuals have positive attitudes but still have difficulties adapting and modifying their practice. [31,60] Several studies show that teachers' attitudes shape the promotion of inclusion. [61,62] Al- Zyoudi [63] showed that teachers who have experience in working with students with special needs are more positive towards these students. Also, teachers who have additional training in inclusive education have more positive attitudes. [64-66] Our research was not specifically focussed on attitudes; however, the changes in Scotland's system to an inclusive model means that such practices are a clear focus, and therefore are part of a professional learning culture which encourages reflection and discussion, as reflected in our results.

Our research identified supports, strategies and practices that target multiple factors. The complexity of deciding which strategies to use for a particular child in a particular situation was based on reasoning and experience. An in-depth analysis of reasoning processes for individuals is outwith the scope of this paper; however, it does raise questions about the currently available models and theory to support practitioners. The areas of additional need most often discussed by the participants were problems with literacy and numeracy; behaviour, social and emotional issues; communication and speech issues; problems with organisation; physical or motor difficulties; problems with attention and concentration and mental health concerns. This reflects the available national statistics in Scotland on children with disabilities, with analogous patterns observed internationally. [5, 67-69] There is an inherent tension in any categorization of this sort however. Knowing what the specific needs of a learner are can be useful for planning, but may lead to marginalization and stigmatisation. [5] Such focus is divergent with the principle of ensuring that learners are not reduced to their limitations [28,70] and can also manifest as attempts to source "specialist" help, or impairment focussed interventions in an attempt to "fix" young people. [71,72] "Fix

the child" discourses have significant limitations in theory and practice, principally by distracting from the fundamental issue of institutional and structural barriers. [71,72]

These debates and tensions are interesting considering the ample content we identified on modifications to contextual elements (the physical and social environment). Contextual approaches, particularly ecological [23] or dynamic systems models, [24] consider the child and the environment as a dynamic system. These ideas help to create a bridge between "medical" versus "social" models of disability, as when considered as a dichotomy they create overly simplistic rejection of individual difficulty in favour of disabling aspects of the environment. Whilst this distinction is useful in developing debate, it is less useful from a practical perspective, as the rejection of either individual impairment or environment as contributing factors to outcomes is clearly incorrect. The key issue is that a wide range of factors, including child and environmental factors, influence outcomes. [24,25,73] The relationship between these factors is multifaceted and varies as a function of a person and their individual circumstances and environment. [25,74] Inclusion is therefore the outcome of dynamic transactions between individuals and their environments. [24,25] The school ecosystem consists of macro-features (like buildings), which influence how classroom supports are provided, which in turn influence how individualised supports are provided. [75] Recognising this system, particularly the role of staff and environments, helps to avoid a deficit model (problems are viewed as emanating from deficits in the child) and to apply a model where we understand that multiple factors contribute to outcomes. [25,73] In practical terms, by focussing on the environment and the role of practitioners (rather than focussing on what an individual learner can and can't do), the structure provides a focus for practitioners' self-reflection on beliefs and attitudes which decentralises the nature of the children's personal limitations and disabilities.

Strengths and limitations

A limitation of this study concerns the single geographical context of the study. Nevertheless, we believe that there are useful insights to be gained, especially considering the relatively high levels of experience of the participants, the number of individuals involved and the inclusion of teaching and non-teaching staff. Our results represent practices that a range of educators and related services personnel agree are realistic, appropriate, and effective for inclusive classroom teaching at the secondary level. Adoption of research is more likely when teachers and school leaders are given ideas that can be integrated easily into practice. [76] In our case, a communications strategy was developed to maximise impact on leaders of the wider schools' community. This was supported through an ongoing network amongst practitioners and researchers.

Conclusions and recommendations

Our research has identified dimensions of an inclusive school and dimensions of an inclusive classroom. The practices discussed in this study reflect those that a range of educators and related services personnel agree are realistic, appropriate and effective for inclusive classroom teaching at the secondary level. It is clear from the themes of "the inclusive school" that the schools involved were relatively successful, enthusiastic and committed to inclusion. This orientation was reinforced by the themes in the inclusive classroom (school staff led strategies, structures and routines, and the physical and social environment). This shows a commitment to inclusion at several necessary levels. The themes presented also show how practices in school's micro-environment can be viewed ecologically (the child, school staff and classroom environment). By focussing on the environment and the role of practitioners (rather than focussing on what an individual learner can and can't do), the results of this study provide a focus for practitioner self-reflection. Schools and teachers

should therefore focus on whole school approaches, physical and social aspects of the environment, identification of learners' strengths and support needs, practical supports and strategies and collaborative working. Focusing on factors within the physical and social environment will reduce the extent to which further additional support is required and allow the implementation of individual support to be minimally intrusive. Further research should focus on identifying interactions between specific aspects of school environment and personal factors impacting on inclusion and participation of learners with disabilities.

Acknowledgements

Thanks are due to participating schools, head teachers, senior management, staff and learners. Thanks to the City of Edinburgh Council's Additional Support for Learning Service, Support for Pupils Teachers, Support for Learning Teachers, Curriculum Development Officers and particularly to Martin Vallely, for supporting this research. We would also like to express our gratitude to staff from Occupational Therapy, Physiotherapy, Speech and Language Therapy, the Therapy Inclusion Partnership, and Educational Psychology Services in Edinburgh. Thanks finally to Stella Arakelyan who supported the completion of this manuscript.

Declaration of Interest

The authors report no conflicts of interest.

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